Deep Space Network Availability
for Radio and Radar Astronomy

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The Deep Space Network (DSN), operated by NASA for spacecraft telecommunications and navigation, is also used as an instrument for scientific research. The high power transmitters and sensitive receiving systems on the large aperture DSN antennas are effective instruments for scientific investigations in radio astronomy and solar system radar. The global distribution of the DSN complexes make the three 70-m antennas particularly valuable components for international experiments using Very Long Baseline Interferometry (VLBI).

NASA's Office of Space Science and JPL are working to increase the accessibility of the DSN radar and radio astronomy programs to the wider community for scientific research that will contribute to technological enhancements of the DSN and NASA's science objectives. The experiment proposal and selection processes are described and the limitations of the scheduling process are explained. Ground-based research programs are scheduled on a best effort basis by taking advantage of gaps in spacecraft schedule. Scientific research using the DSN has produced significant technological improvements in spacecraft navigation and solar system ephemeredes as well as a long list of refereed publications. The current plan is to enrich the science output with new proposals and use this valuable asset even more efficiently in the future.